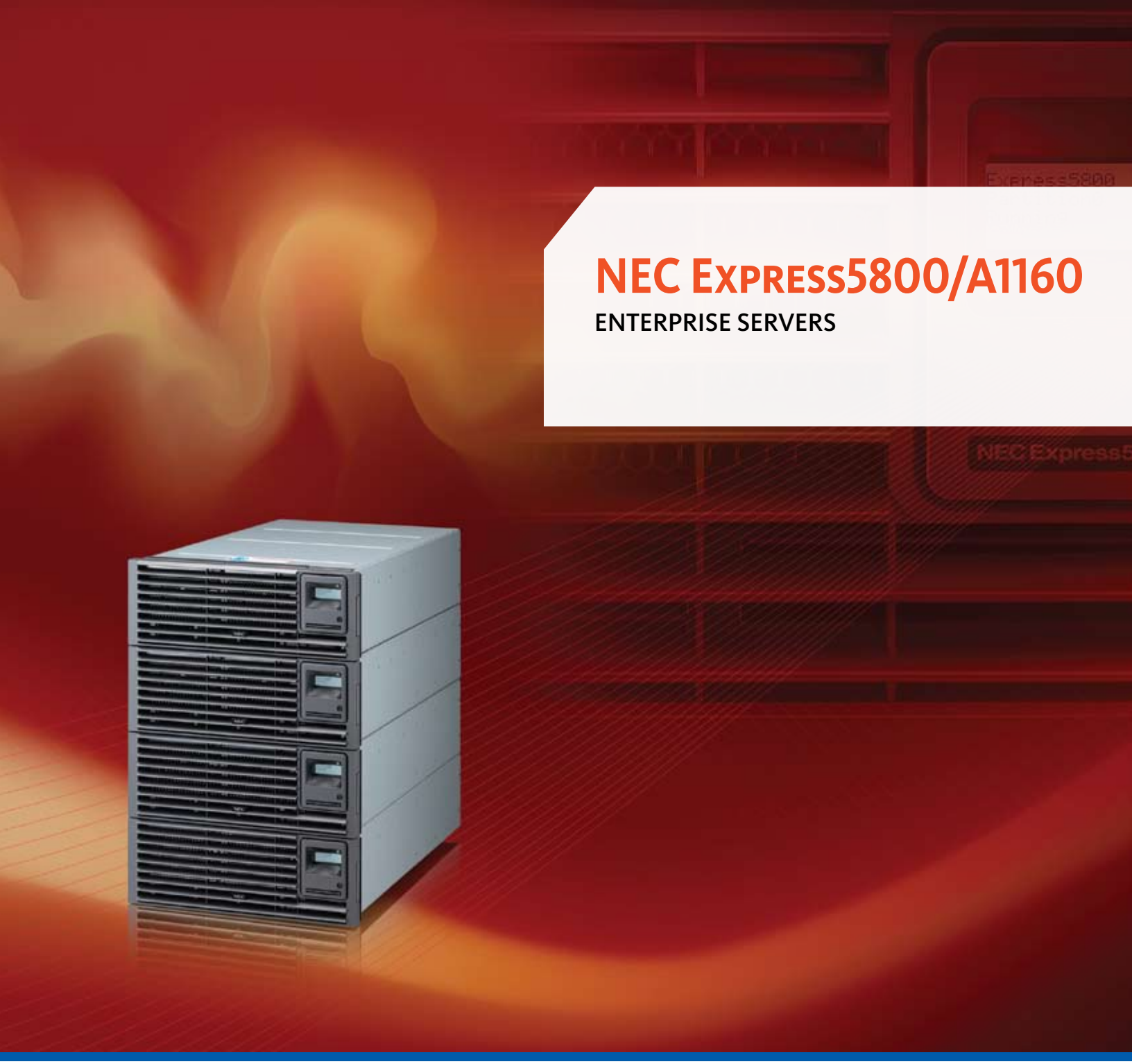


NEC Express5800/A1160

ENTERPRISE SERVERS

Leveraging a rich heritage in mission critical computing, NEC delivers a new product line specifically tuned for new 6-core Intel® Xeon® processors.

The NEC Express5800/A1160 enterprise server is developed from a long heritage in both supercomputer- and mainframe-class computing. Specifically created from the ground up around the new 7400 family of Intel multi-core (Dunnington) Xeon processors, NEC's Express5800/A1160 unleashes exceptional performance within a very compact, modular, power efficient, and scalable design.

Empowered by Innovation NEC

Available in 4-core and 6-core per processor socket options, Intel's 7400 Series CPUs deliver superior performance compared to previous generation quad-core Xeon processors. In addition, reduced power consumption per CPU core provides added benefits for energy-conscious IT managers.

NEC's A1160, aka Monster Xeon® Server, system architecture features an efficiently scalable, highly reliable, and easily serviceable solution perfect for system consolidation, virtualization deployments, and enterprise database applications. Each complete A1160 system can scale from 1-node, 4-sockets, 16-cores, and 4 GB memory, to 4-nodes, 16-sockets, and 96-cores and 1TB memory*1.

Features

Performance

- » Intel 7400 Series Xeon® CPUs
- » Integrated Scalability Port
- » Expandable PCIe Hot-swap I/O

Reliability

- » Hardware Error Logging
- » Integrated RAS Memory
- » Internal RAID Storage

Serviceability

- » Front & Rear Access Design
- » Advanced Monitoring
- » Hot Replaceable Sub-systems

Benefits

Performance

- » Excellent System & Virtual Machine Performance per Watt
- » Incremental Growth
- » State-of-the-art I/O

Reliability

- » Proactive Service Alerts
- » Memory Integrity
- » Internal Storage Resilience

Serviceability

- » Convenient Serviceability
- » Quick Problem Resolution
- » Investment Protection

World Class SQL Server® Platform Performance

NEC Corporation announced that it is the first computer company to publish and exceed 1,500 tpsE (transaction per second) benchmark performance results as measured the industry standard TPC-E benchmark.*2

With a TPC-E performance benchmark of 1,568 tpsE, NEC's Express5800/A1160 Monster Xeon Enterprise Server holds the top position for SQL Server 2008 database performance. TPC-E price-performance measured $1,180.01 USD/tpsE.*4

This world class benchmark was achieved with Microsoft® Windows Server® 2008 and SQL Server® 2008 running on the server hardware, which served as the database server, and NEC's innovative Enterprise Modular Storage D3-10 functioning as the database storage system.

Power Efficient Consolidation

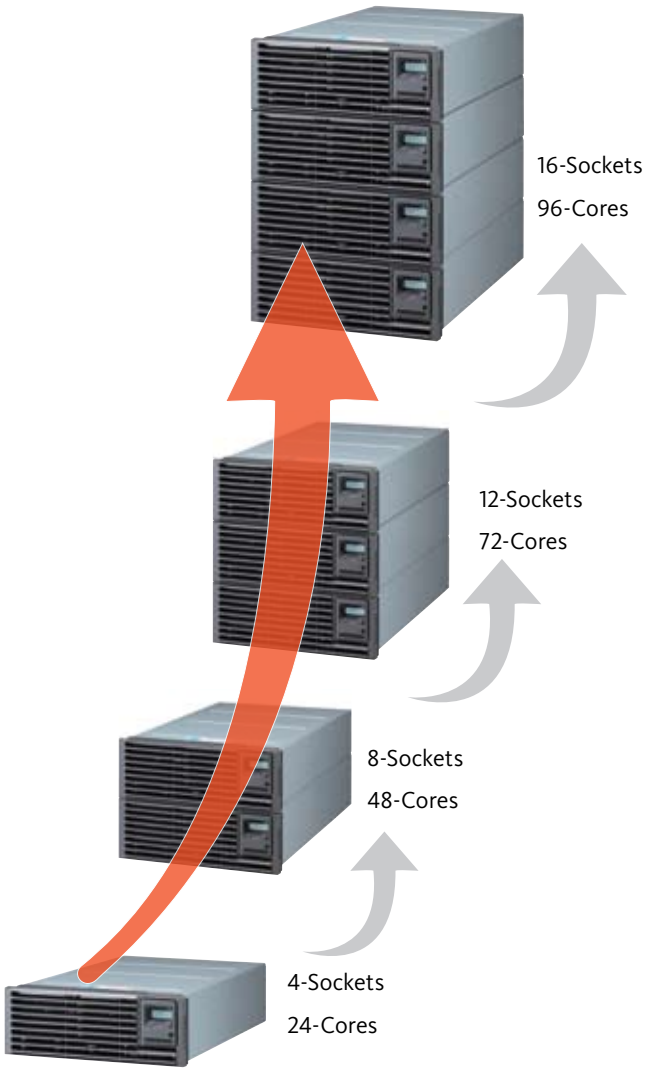
NEC A1160 Enterprise Servers are designed to support advanced virtualization environments such as Microsoft's® newly released Hyper-V, VMware's® ESX Server and Citrix virtualization software. Compared to existing quad-core Intel 7350 CPUs, new 7400 series CPUs provide up to 38% faster Virtual Machine (VM) response, up to 40% more VM workload capacity, and up to 50% better VM performance per watt*5. As a result, NEC Expess5800/A1160 servers are an excellent platform to implement virtualization driven system consolidation strategies.

Easy Scalability

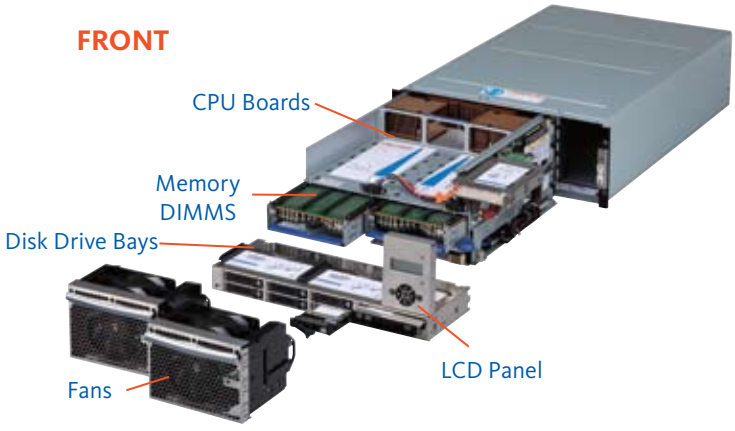
In combination with its monster-sized configurability, whether one node or four nodes, the entire configuration can appear as one large system to system applications. For additional flexibility, each node can be logically partitioned in order to support efficient application stacking with the benefit of a single system management umbrella.

Extreme Modularity

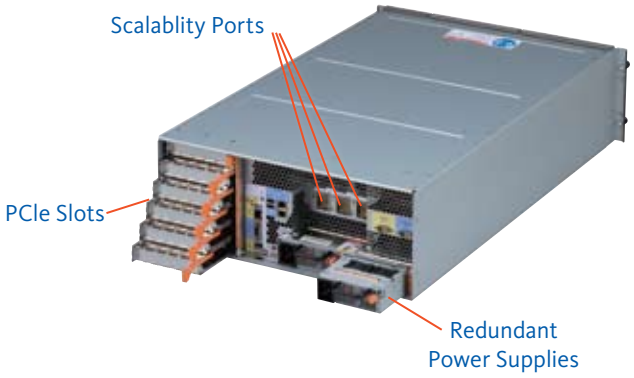
For convenient in-rack serviceability, NEC Express5800/A1160 Enterprise Server sub-system components (e.g., CPU, memory, and I/O) are front and rear accessible. Additionally, all subsystem components utilize quick insertion connectors — no tools required. This advanced modular design allows for fast system service without removal of the base chassis from the rack and without heavy lifting.



FRONT



BACK



Notes

(1) 1 TB memory feature available Q1 2009.

(2) TPC-E is a new-generation industry-standard benchmark that is designed to be broadly representative of modern OLTP systems. The benchmark simulates a brokerage firm with customers, accounts and holdings, where customers trade stocks and monitor their accounts and the market.

(3) Benchmarked system model available in North America. A three node, 12 socket configuration was used for this benchmark.

(4) Source: Transaction Processing Performance Council (TPC). http://www.tpc.org. As reported March 18, 2009, NEC Express 5800/A1160, 1,568.22 tpsE @ $1180.01 USD/tpsE. System availability date is immediate, March 18, 2009 and is for North American market only.

(5) Relative virtual machine performance data provided by Intel Corp.

Specifications

Standard Express5800/A1160 features enable enterprise-class reliability, availability, and serviceability.

Description		Specifications	
CPU	Processor	Intel Xeon X7460	Intel Xeon E7440
	Frequency	2.66 GHz	2.40 GHz
	Core Count	6 Cores	4 Cores
	L2 Cache	3 MB per core pair (9 MB)	3 MB per core pair (6 MB)
	L3 Cache	16 MB	16 MB
Memory	DIMM Type	FB-DIMM 667 MHz	
	Min./Max.	4 GB / 1 TB[1]	
	Slots per node	32 slots per node	
	Slots per 4 node system	128 slots maximum	
I/O	PCI Type	PCI Express x8	
	Slots per node	6 (Hot-plug capable)	
	Slots per 4 node system	24 (Hot-plug capable)	
Storage	Internal HDD type	SAS SFF 2.5 HDD (Hot-swap)	
	Drive options	73 GB 15,000 RPM / 146 GB 10,000 RPM	
	Slots per node	6	
	Slots per 4 node system	24	
	RAID options	RAID levels 0 / 1 / 5 / 10 / 50 (excl. Linux); RAID Level 1 (w/Linux)	
System Scalability		Integrated scalability port included standard with base system. Please note, high-speed interconnect cable not included with base system.	
Integrated Network Interface		2 port 1000BASE-T	
Peripheral Devices		DVD-R/W standard (Optional external USB Floppy Disk Drive)	
External Interfaces		VGA, USB x 4, Serial x 1, 1000BASE-T x 2	
Service Processors		1 Integrated into each module / 10 / 100BASE-T Connection xv	
Hotswap Components		Power supplies, fans, memory (w/memory mirroring), HDDs (w/RAID 1 or higher) and PCI-Express (w/Windows only)	
Power Supply Rating		Max 1,425 W - 220V (redundant power supplies)	
Form Factor		4U Rack mount per node	
Weight Min./Max.		81.9 lbs (37.22 kg) / 97 lbs (44kg) per node	
System Management		NEC ESMPro System Manager, NEC Utility CD	
Operating Systems		Windows Server 2003 R2, Enterprise Edition (x86 & x64, SP2 or later) Windows Server 2003 R2, Datacenter Edition (x86 & x64 SP2 or later) Windows Server 2008 Enterprise (x64) Windows Server 2008 Datacenter (x64) Red Hat Enterprise Linux 5 (EM64T), Citrix Xen Server 5.0[2] VMware ESX Server 3.5, Microsoft Windows Server 2008 Hyper-V*	
Warranty		3-Year Limited Warranty	

[1] 1 TB memory feature available Q1 2009.
[2] Citrix Xen Server certification pending.
* Available 1H 2009.

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